

## ASSYMETRICAL ANTENNAE IN THE HAWTHORN SHIELDBUG *ACANTHOSOMA HAEMORRHOIDALE* (L.)

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A male specimen of the hawthorn shieldbug, *Acanthosoma haemorrhoidale* (L.), was sent from Ardrossan, Ayrshire, to Glasgow Museums as an enquiry in early January, 1992. There is a problem with this species in Scotland because the only readily available source of information (Southwood & Leston, 1959) is considerably out of date in details of distribution. This tends to be off-putting to those who get as far as identifying the animal correctly but tend not to believe the evidence of their own eyes in the light of the apparent fact that it does not occur north of Yorkshire.

Furthermore, this particular example is peculiar in that the left antenna has four joints while the right has five (Figure 1). The key to families uses the number of antennal joints as one of the couplets. It distinguishes the shieldbugs (five joints) from other families (four joints). Obviously following the wrong choice could result in an erroneous identification or plain bewilderment. The advisability of checking both halves of insects for bilateral variation in details of structure is thus reinforced.



Fig. 1. *Acanthosoma haemorrhoidale* (L.), the hawthorn shieldbug showing assymetrical antennae.

Table 1. Relative antennal joint lengths.

Joint	Left	Right	
1	22	22	(20.6)
2	23	21	(20.2)
3	19	16	(15)
4	32	24	(22.8)
5	—	23	(21.2)
Total	96	106	(99.8)

The figures in parentheses are the average of both antennae of three normal male specimens from other Scottish localities. The figures are the readings from a micrometer eyepiece, not exactly equivalent to a whole millimetre. The actual antennal lengths of the 16.01-mm-long bug are: left 8.16 mm, right 9.01 mm.

Microscopic examination reveals the unequal antennae are not the result of immediate damage in the adult state because the joints are all perfectly formed, and with differing proportions as detailed in Table 1.

These measurements show that the left antenna has undergone allometric growth (that is when organs or parts of a body develop at a different rate from the rest). This may be to compensate for the loss of the joint. Nymphs of most heteropterans have four joints. According to Miller (1956), in shieldbugs it is the second joint which divides to provide the five segments found in the adult antennae. Presumably the controlling mechanism in this individual's development was interfered with. However, this has been partly compensated for by some regeneration in terms of length.

In light of the general lack of published data on Scottish occurrences of this insect, the following are the details from other specimens preserved in Glasgow Museums which add to the records given by Hill (1973). These are Drymen, Stirlingshire, 19.viii.1984; Dumfries, 10.v.1988; Bearsden, Glasgow, 14.x.1991. I have recently learnt that one has been reported from Crieff, Perthshire on 17.i.1992 (personal communication, Anne Abernethy, Perth Museum) another adult overwintering record to add to this Ayrshire one.

#### REFERENCES

- Hill, A. R. 1973. Invertebrate short notes: hawthorn shieldbug. *Glasgow Naturalist* 19: 59.  
 Miller, N. C. E. 1956. *The biology of the Heteroptera*. London: Leonard Hill, pp. 162.  
 Southwood, T. R. E. & Leston, D. 1959. *Land and water bugs of the British Isles*. London: Warne, pp. 436.

#### BOOK NOTICE

**Guía de mariposas diurnas de la Peninsula Iberica, Baleares, Canarias, Azores y Madeira**, by F. Fernandez-Rubio, Madrid, Ediciones Pyraminde, 1991, 2 vols, 148 and 406 pp, paperback, ISBNs: 84-368-0601-8 and 84-368-0602-6.—Written entirely in Spanish, these books are lavishly illustrated with colour photographs of live and set specimens, genitalia preparations and distribution maps. The two volumes are not numbered, but the first contains Papilionidae, Pieridae, Danaidae, Satyridae and Hesperidae; the second contains Libytheidae, Nymphalidae, Riodinidae and Lycaenidae. Any lepidopterist, or in fact an entomologist, visiting these popular holiday destinations would be well armed with these two attractive books.